As also noted in the Office Action, Woodward teaches a fire extinguishing system nozzle. In the Office Action it is stated that the nozzle has an outlet that is arranged such that a rotational movement of the extinguishant is induced to distribute the extinguishant homogenously within a fluid-filled volume.

Woodward discloses an inlet 13 (see column 3 at lines 6 and 7) that is connected to a supply pipe 14 that contains water under mains or pump pressure. It is explained that a vaned internal "swirl" assembly 13a is fixed in the inlet. The water exits the inlet 13 and enters a cavity 12 of the nozzle. The nozzle outlet is designated 15 (see column 3 at line 10) and is normally blocked by a plug member 16. Various arrangements are disclosed for releasing the plug member 16 to allow fluid to leave the cavity 12 through the outlet 15.

There is no disclosure at all in Woodward of the affect of the swirl assembly 13a of the inlet 13 connected to the water supply pipe 14. It is implied in the Office Action that the inlet swirl assembly 13a is an outlet that is arranged such that a rotational movement of the extinguishant is induced to distribute the extinguishant homogenously within a fluid-filled volume in which a fire is present. This is not what Woodward disclose at all. The swirl assembly 13a is an inlet to the cavity 12. The outlet 15 of the cavity 12 is a simple opening.

Therefore, contrary to at least independent claim 1 (similar language being recited in independent claims 17 and 24) of the present application, Woodward does not disclose:

> an extinguishant outlet formed in the wall of an interior cavity for discharging extinguishant fluid into a fluid-filled volume for extinguishing a fire in that fluid-filled volume, the arrangement of the outlet being such that a rotational movement of the fluid, including the extinguishant, in the fluid-filled volume is induced which tends to distribute the extinguishant fluid homogenously within the fluid-filled volume.

An inlet swirl assembly 13a of the type disclosed by Woodward when positioned at an inlet to a fluid cavity, spaced from the outlet 15, will not operate in the claimed manner. Therefore, in addition to being structurally completely different from the claimed, Woodward

does not disclose an outlet that causes the claimed homogenous distribution of extinguishant fluid within the fluid-filled volume for extinguishing a fire in that fluid-filled volume.

O'Connell discloses a discharge head 35. The discharge head 35 receives hot water through inlet 36. The hot water then passes into an expansion section 43. Steam is introduced into the heated water stream downstream of the expansion section 43 through stem inlet 40 (see column 4 at lines 29 to 32). The purpose of the arrangement disclosed by O'Connell is disclosed in column 4 at lines 50 to 54, where it is stated:

> The invention provides a heater water extinguishing system in which thermal stored energy is such that, on release into an area, complete disintegration of the water will take place. The disintegration is achieved by the formation of vapour bubbles which grow rapidly throughout the mass. When released into an area, the vapour bubbles burst and explode the water into finely dispersed droplets.

The purpose of the outlets 37 of O'Connell is clearly and explicitly stated to be to encourage nucleation of the fluid within the nozzle and to propel the fluid to the fire. The nozzle is designed so that the micromist produced by the outlets 37 has sufficient momentum to reach the fire. For example, in column 9 at lines 37 to 40 it is stated:

> the momentum of the microjet is sufficient through the external release of energy to travel and disperse in excess of 10 metres.

In column 9 at lines 61 to 62 it is stated that the operating temperature and pressure be sufficient to "propel the water mass to the point of use" (i.e. the fire).

Woodward teaches a swirl assembly 13a in a liquid inlet. At best, Woodward would teach a person skilled in the art consulting O'Connell to modify the hot water inlet 36 of O'Connell to include a swirl assembly of the type disclosed in Woodward. There would be no reason or motivation for the person skilled in the art to do this, and it is likely that this would

disrupt the interaction of the steam entering through inlet 40 with the hot water entering through inlet 36 of O'Connell. Therefore, a person skilled in the art is unlikely to make this substitution, and even if they did make this substitution, the structure would not meet the limitations of the claims.

The Office Action seems to indicate that it would be obvious for a person skilled in the art to replace the outlets 37 of O'Connell with the swirl assembly inlet taught by Woodward. It is submitted that it would certainly not be obvious to a person skilled in the art to take the inlet 13 of Woodward including the swirl assembly 13a, which is used in Woodward for receiving water at mains or pump pressure, and to replace the outlets 37 that are configured to receive a micromist of finely dispersed water droplets (generated by the interaction of the hot water and steam from inlets 36 and 40, respectively), and to encourage nucleation of this water mist and to propel this water mist to the point of use. The swirl assembly 13a of Woodward is suitable for receiving water at mains or pump pressure and not for receiving a micromist of finely dispersed water droplets, and would not perform satisfactorily in the discharge head of O'Connell. Further, the swirl assembly of Woodward would be contrary to a primary function of the outlet nozzles 37 of O'Connell, which is to propel the water mass to the point of use. The swirl assembly would reduce the range of the water mass.

In summary, O'Connell fails to disclose an outlet that induces rotational movement of fluid, including extinguishant, in a fluid-filled volume in which there is a fire and which tends to distribute the extinguishant fluid homogenously within the fluid-filled volume. Woodward does not disclose an outlet in the wall of an interior cavity that induces rotational movement of fluid. Woodward only discloses a swirl assembly inlet that receives water. A person skilled in the art would have no motivation to look to the water inlet swirl assembly 13a of Woodward and decide to use this structure to replace the outlets of O'Connell, when the swirl assemblies are not suitable for receiving the micromist of finely dispersed water droplets that they would receive in the O'Connell arrangement, and when the swirl assembly would reduce the range over which the water mist could be propelled. Even if this implausible modification of the O'Connell arrangement were made, there is no teaching or suggestion that the resultant assembly would

cause rotational movement of the fluid, including the extinguishant, in the fluid-filled volume containing the fire and which tends to distribute the extinguishant fluid homogenously within the fluid-filled volume containing the fire.

The swirl assembly 13a of Woodward seems to be of no more relevance to the claims than "spiral" 330 of Inamura (US 5653391), which was cited in the previous Office Action. The citation of Inamura has since been withdrawn, and it is respectfully submitted that the citation of Woodward should also be withdrawn for the same reasons, whether the Woodward is cited alone or in combination with O'Connell.

Reconsideration and allowance is respectfully requested. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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Date: June 13, 2008

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